CONCLUSION

Erosion along the margin of the Atlantic Intracoastal Waterway channel in the Guana Tolomato Matanzas Estuarine Research Reserve is drastically altering nearshore habitat and resulting in substantial ecological degradation. From 1970/1971 to 2002 nearly 70 hectares (170 acres) of nearshore intertidal bars, marsh, dredge spoil disposal areas, and uplands have been lost to erosion. Analysis of erosive trends suggests that increased nearshore wave energy caused by boat wakes is the primary cause of this erosion; however, further research may be necessary to accurately relate wake energy to erosion rates. Such work should be followed by the development and implementation of a plan intended to address the problem of erosion.

A management plan developed to address the problem of margin erosion in the GTMNERR should focus primarily on minimizing nearshore wave energy levels and perhaps using nearshore stabilization techniques as a remediation tool where impacts have been most severe. Regulation of navigation on the Intracoastal Waterway would most likely be implemented by the State of Florida and thus involve enforcement by the Florida Fish and Wildlife Conservation Commission. As no clear statutory authority for such regulation exists, extension of existing legislation or introduction of new state legislation may be necessary. Implementation of the stabilization portion of such a plan would involve meeting federal and state permitting requirements and obtaining the consent of involved land owners. Failure to implement such a plan is likely to allow current rates of habitat degradation to continue and, therefore, has the potential to undermine the intent of the GTMNERR as a National Estuarine Research Reserve (National Estuarine Research Reserve System, 2005(b)).